

Technical Note No. 40

**PROTECTING THE POOR IN AFRICA:
Impact of Means Testing on Equity
in the Health Sector
in Burkina Faso, Niger, and Senegal**

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ABSTRACT

This Technical Note examines the effect of informal methods of means testing in health facilities that are carrying out cost recovery activities. Using data from large household surveys, this analysis shows: 1) the proportion of all people seeking health care who paid and who were given waivers, 2) the proportion of poorest individuals (in the lowest 25 percent of households according to income) and of the non-poor (the remaining 75 percent of households) who were given waivers, and 3) the proportion of all waivers that were given to the poorest and to the non-poor. The data from Senegal revealed that church-run facilities had developed more effective practices in protecting the poor and granted twice the percentage of waivers to the poor as did MOH health facilities. The Burkina Faso data revealed that the non-poor were just as likely to receive fee exemptions as the poor. The data from Niger, collected both before and during pilot tests on cost recovery, showed that a substantial proportion of people paid under the "free care" system, and helped draw conclusions about the impact of official cost recovery on fee charging and waiver practices, specifically on how cost recovery affected waivers for the poorest 25 percent of patients.

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1.0 INTRODUCTION

1.1 Background and Purpose

With support from USAID's Office of Health, the Health Financing and Sustainability project (HFS) prepared this Technical Note as part of an Office of Health contribution to a broader effort to study means testing in the health sector. USAID's Health and Human Resources Analysis for Africa project (HHRAA) is supporting the broader study, which the BASICS project is coordinating. The broader study calls for field research in five countries to examine the operation and effectiveness of various types of means testing procedures in a variety of country and health service delivery settings. (Newbrander and Collins 1995) The purpose of the broader effort is to identify strengths and weaknesses of current means testing systems and identify practices which African countries might use to improve the effectiveness of procedures to protect the poor, especially in countries undertaking substantial health sector reform.

The purpose of this Technical Note is to supplement the new field studies that BASICS is conducting with findings from an already existing data base from field research that HFS had conducted to assess health care demand and the impact of cost recovery initiatives in three African countries: Burkina Faso, Niger, and Senegal. Because the existing HFS data are based on household surveys, these findings will help round out the BASICS studies which may have limited opportunity to conduct special household surveys in their means testing evaluations.

At the Office of Health's request, this Note also discusses and illustrates the use of several empirical measures to evaluate the effectiveness of current informal means testing procedures in protecting the poor under cost recovery in the health sector. These measures can help decision makers assess the performance of means testing policies and practices in promoting the goals for equity in their health financing reform programs.

The next two sections of this Note provide a brief discussion of the policy context of means testing and summarize research methodologies, including the methodology and data bases for analysis of means testing performance in Burkina Faso, Niger, and Senegal. *Section 4* presents findings from the three countries. *Section 5* provides conclusions and policy implications.

2.0 POLICY CONTEXT

A small but growing body of literature reviews and evaluates means testing experience in the context of cost recovery initiatives in the health sector in developing countries (Grosch 1994; World Bank 1994; Nolan, Turbat 1993; Gilson, Russell, Buse 1995; Russell, Gilson 1995), including several reviews and analyses produced by the HFS project (Levine et al. 1992; Willis 1993; Willis, Leighton 1995, Leighton 1995a, 1995c; Bitran 1995), and a review that BASICS produced for its five country study (Waters 1995). The following highlights some of the key policy and program issues that have emerged from these recent efforts.

2.1 User Fees and the Poor

Since the 1980s, policy-makers and government officials in developing countries have relied increasingly on cost recovery to overcome government budget constraints and improve health services. Increased focus on cost recovery for government health services in Africa has led policy makers to be concerned about the impact of fees on use of health services by the poor. One of the most persistent debates about health financing reforms in Africa concerns the feasibility and effectiveness of methods that might be used to protect the poor and high risk groups from the potentially negative impact of user fees.

Fee collection might have negative effects by preventing the poorest from seeking health services or impose undue hardship on poor patients who do pay for care. User fees may also be inequitable if new or increased prices provide a stronger disincentive to the poor than to the better-off. Several studies have shown that, compared to the non-poor, the poor are more sensitive not only to changes in the money-price of health care, but to changes in quality and in the time-price of care (Gertler and van der Gaag 1990; Shaw, Griffin 1995; Mwabu, Mwangi 1986; Leighton 1995c).

2.2 The Role of Means Testing

"Means testing" is an administrative mechanism that identifies an individual's income for purposes of establishing eligibility for benefits or services, such as health care, at no charge or reduced charge. By identifying individuals who are unable to pay and granting fee waivers (or reductions) to them, this mechanism is one of the principal approaches that can be used to protect the poorest under health sector cost recovery programs. Because it provides a safety net for the poorest while permitting fees to be collected from those able to pay, means testing could be an essential tool to promote fee collection and equity simultaneously. In theory, means testing helps cost recovery initiatives to achieve their objective of raising revenues to improve access and quality of health services without hurting goals for greater equity in access to health services (Willis, Leighton 1995).

Research and experience have shown that many constraints undermine the development and implementation of effective means testing systems in developing countries. In particular, "ideal" conditions (e.g., formal wage records, high literacy, steady income, strong administrative and information system capacities) for effective means testing do not generally exist in African countries (Grosch 1994; Gilson, Russell, Buse 1995; Willis 1993; Willis, Leighton 1995). Means testing in Africa is usually decentralized and informal, conducted the local or facility level without formal or precise eligibility criteria. Often health workers determine eligibility at the health facility at the time a patient seeks care. Where social assistance programs exist, they are often administered locally and informally and rely on the word of the applicant or of a community leader.

In African countries with official fee exemption policies to protect the poor, typical official guidance indicates that "the poor" should receive exemptions, but gives no definition or criteria for verifying income levels, or for determining which income levels represent the eligibility threshold. In a recent survey, only half the countries in Africa had even this minimum policy in place (Nolan, Turbat 1993). Other surveys have identified only two countries with means testing systems in health that specify income cut-off levels (Zimbabwe and Ethiopia), one (Lesotho) with specific criteria related to land and livestock ownership, and one (Malawi) that uses landholding criteria to determine eligibility (Russell, Gilson 1995).

While informal means testing policies — both official and unofficial — are widespread in Africa in the public and the NGO health sectors, little documented evidence exists of the effectiveness of these policies in providing fee exemptions or reductions for the poor. Reviews of country practices have concluded that means testing in African countries is limited in scope (e.g., Nigeria, Burundi, and Kenya), ineffective in practice (e.g., Uganda), or non-existent (Nolan, Turbat 1993; Willis 1993). When both fee exemption and fee collection policies are loosely administered, few people are required to pay. In such cases, fee waivers are often siphoned-off to the non-poor and many of the poor fail to receive exemptions (Leighton 1995a).

Because of the potential for abuse of exemptions at the face-to-face, local level, a policy of "everyone must pay" is often the prevailing practice for health financing reforms that involve only modest fees for outpatient services and medications. When all are required to pay, health facilities usually rely on informal, ad hoc arrangements and friends, relatives, and neighbors acting out of community or family "solidarity" to pay for the truly indigent (World Bank 1994; Leighton et al. 1994).

Informal means testing and community solidarity to pay for those who need help are government's most commonly used methods of protecting the poor under health care cost recovery programs. Other criteria than income, however, are also applied to grant fee waivers. Most African countries also have fee exemption policies for non-income related target groups (e.g. civil servants, students, the military, tuberculosis patients, the handicapped). In contrast to means testing for income-related exemptions, targeting exemptions on groups based on occupation or other characteristics is easier to administer and likely to be more effectively applied, judging from reportedly high proportions of exemptions granted to such groups in government health facilities.

2.3 Policy Research Issues

Many policy makers and analysts are concerned that means testing will not do an adequate job of protecting the poor in African health systems that introduce strong incentives to collect fees. Others suggest that community solidarity systems protect the poor under cost recovery and that informal means testing is sufficient to exempt the poorest, while avoiding the high costs of more elaborate systems. Still others maintain that in populations that are generally poor, targeting methods other than means testing are most effective, cost recovery should not be introduced, and governments should therefore continue to provide full subsidies for health services to all people.

Given these concerns, some of the key policy and programming issues include questions about:

- ▲ *Equity*: the effectiveness of informal means testing systems in protecting the poor by providing fee waivers to at least a substantial majority of the poor who seek or need health care;

- ▲ *Program costs*: the cost-effectiveness and feasibility of more formal income-testing procedures that might achieve greater accuracy in identifying, and providing waivers to, the poorest, while denying waivers to those able to pay;
- ▲ *Revenue loss*: costs of granting fee waivers to those able to pay;
- ▲ *Program design*: the factors that affect means testing incentives, accuracy, and effectiveness in achieving both equity and revenue raising objectives.

This Technical Note addresses three subsets of policy questions related to the impact of means testing on equity, with a specific focus on the rural poor:

- ▲ How effective are informal means testing systems in granting fee waivers to the rural poor?
- ▲ What effect does introducing official cost recovery for health services have on protecting the poor, compared with the situation under previous "free care" policies? How do the poorest fare compared with the better-off?
- ▲ How do public sector health service providers compare with private providers in means testing performance?

In all three countries this study focuses on, official policy calls generally for fee exemptions to be provided to "the poor," without further specific guidance on procedures or income eligibility criteria. In all three, either health facility personnel or local governments with social assistance programs have responsibility for identifying the poor who are eligible for waivers. In all three countries, several other target groups are also eligible for waivers from health service fees in government facilities: civil servants, military, students, and the handicapped. The means testing systems in Burkina Faso, Niger, and Senegal are thus typical of the informal, public sector means testing systems that prevail in African health sectors.

3.0 RESEARCH METHODOLOGY

3.1 Concepts

Although the terms are often used interchangeably, means testing and targeting are not identical. Targeting is the general process of channelling benefits such as food or health care to a specific (target) population group such as the poor, women or children. It is usually compared with offering services to everyone free-of-charge (i.e., through a general price subsidy). Means testing is but one of a number of targeting mechanisms.

- ▲ *Means testing.* Specific individuals are classified as eligible or ineligible for benefits (e.g., fee waivers) according to income-related criteria. The purpose of means testing in the health sector is usually to totally or partially exempt from payment those who are unable to pay user fees or who would suffer undue financial hardship by paying.

Other targeting methods used to establish eligibility for direct benefits or fee waivers include:

- ▲ *Geographic targeting.* Fees are charged only at clinics located in certain geographical areas (e.g., urban centers); services elsewhere are free or subsidized for all who use them.
- ▲ *Characteristic targeting.* Individual attributes (e.g., age, sex, occupational group such as civil servant, military) are used to determine eligibility for benefits or fee waivers.
- ▲ *Condition targeting.* Health conditions (e.g., pregnancy, malnutrition, handicap) are used to determine eligibility.
- ▲ *Self-targeting.* Characteristics of the service (e.g., convenience, waiting times, perceived quality, amenities) or social stigma effectively discourage use by those not belonging to the target group.

3.2 Effectiveness Measures

This Technical Note uses four basic indicators to evaluate means testing effectiveness in protecting the poor:

- 1) *Prevalence of fee waivers.* The proportion of all people who seek health care who pay and who receive fee waivers.
- 2) *Fee waiver coverage for the poor.* The proportion of poor patients (defined in this study as patients from households with the lowest 25 percent of income) who receive fee waivers.
- 3) *Fee waiver coverage for the non-poor.* The proportion of non-poor patients (defined in this study as people from the 75 percent of households above the lowest income quartile) who receive fee waivers.

4) *Distribution of waivers to the poor and the non-poor*: The proportion of all waivers given to the poor and to the non-poor. The proportion given to the non-poor is often called "leakage."

Each of these indicators is discussed briefly below.

3.2.1 Prevalence of fee waivers

Measuring the prevalence of fee waivers provides descriptive information about the extent of waiver practice. Managers can use this information to compare how widely waivers are practiced in various provinces and districts, across different levels of the health delivery system (tertiary, secondary, and primary health care facilities), and across different types of providers (public, private for profit, or private non-profit). The prevalence of waivers can provide a rough indication of whether health facilities are implementing new means testing policies or whether revenue goals for cost recovery are likely to be met. The extent to which waivers are granted in general, however, does not provide much information on the performance of means-testing in a given setting for purposes of protecting the poor from potentially harmful effects of fees for health services. For this purpose, program managers need measures specifically related to waiver practice for poor patients.

3.2.2 Waiver coverage for the poor

Measuring waiver coverage for the poor is more directly related to the accuracy and effectiveness of means testing procedures than is overall waiver prevalence. Waiver coverage measures the proportion of the eligible population that has been correctly identified and provided benefits correctly. The proportion not covered is a measure the error (often called Type I error) related to excluding eligible poor people.

It is important to note that measures to evaluate fee waiver coverage for the poor need to clearly identify the poor population that a Ministry of Health's means testing policy aims to address. The target poor population can be defined as: 1) all poor people who seek services at health facilities and/or 2) the total poor population that also includes people who are sick but do not seek health services because of cultural practices, perceptions of quality, time and money constraints related to travel, uncertainty about user fees and waivers, and/or other reasons. Protection from fees is only one way to increase access to health services for the poor and Ministries may have a variety of strategies to accomplish this objective, in addition to means testing. *Section 4* of this Technical Note illustrates the importance of these considerations.

3.2.3 Waiver coverage for the non-poor

Fee waiver coverage for the non-poor is particularly relevant in many African countries because of the widespread existence of other targeting mechanisms in the health sector. In many African countries a substantial portion of this non-poor group may belong to another target group that is eligible for fee waivers, such as students or civil servants. Some patients in this group may also represent an "error" of inaccurately identifying some non-poor patients as among "the poor."

Assessing how many of the non-poor receive fee waivers helps indicate the relative importance, in practice, of waivers for the poor, compared with fee waiver protection provided to other target groups. Together, waivers for the poor and other target groups can ultimately cover quite large percentages of the patient population. In conjunction with the measure of "leakage," this indicator can also suggest whether an unacceptable portion of waivers is going to people who may not need them and whether different policies and practices might free up funds spent on waivers for other program objectives.

3.2.4 Distribution of waivers to the poor and non-poor

Many studies of means testing effectiveness focus on distribution of fee waivers to the non-poor as an indication of "leakage" of benefits. In systems where only the poor are eligible for fee waivers, a completely accurate means testing system would provide 100 percent of waivers to the poor. In such systems, providing waivers to the non-poor (i.e., non-eligible) is often called Type II error. Because of difficulties achieving complete accuracy, most programs try to achieve a reasonable balance between the two error rates related to exclusion of the poor and inclusion of the non-poor.

Thus, a trade-off exists between the cost of achieving accuracy in identifying the poor and the non-poor and the most effective methods of assuring that people are not excluded from care because of low income. The less accurate the targeting method, the more non-poor capture the benefits, or the more poor people are missed. On the other hand, money used to cover administrative costs to achieve greater and greater accuracy in identifying the poor could be used to subsidize health services for the indigent, high-risk, or other target group.

From this point of view, the most accurate means testing mechanism is not necessarily the best; and there is generally an "efficient" amount of fee waivers that could go to the non-poor. For example, it would not be efficient to spend more on administrative costs to prevent fee waivers from going to the non-poor than it would cost to allow them to receive the health service free of charge. In practice, program managers often aim for a level of accuracy that identifies correctly as many poor as possible at the least administrative cost, or that provides waivers to as many poor as possible for a given budget.

3.2.5 Other measures

Many studies of targeting, means testing and related methods for improving welfare use various measures to assess how progressively or regressively the benefits are distributed. These measures often take into account tax funding or value of benefits received. There are numerous technical complications in devising these indicators and interpreting results (Grosch 1994, Glewwe and van der Gaag 1988). This Technical Note does not deal with these additional measures and focuses instead on measures that program managers can collect most readily and that policy makers can use for an initial indication of effectiveness. Depending on initial findings, decision-makers can follow up with more in-depth studies and refined measures.

3.3 Data Gathering Methodology

Several methods are available for gathering data to assess the impact of means testing procedures in protecting the poor:

- ▲ household surveys, containing questions that identify household income and whether sick household members paid for care received, by source of care
- ▲ facility records of patients who paid, and of fee waivers granted, by income and other waiver eligibility criteria
- ▲ patient exit interviews at health facilities in which patients are asked if they paid for health services.

Household surveys can provide more accurate information about income level than other methods, though they are more expensive to conduct. Frequently, however, existing surveys, whether or not designed to answer questions about means testing, contain the relevant data. Only representative household surveys can provide information to assess the impact on the whole population, including poor people who report an illness but have not sought care. In addition, only representative household surveys can capture information about use and payment for services in geographic areas where there are several health providers and no clearly defined catchment area for each health facility.

Facility records provide information on categories of patients given waivers other than the poor (eg. civil servants, students, military, TB patients). This latter information is often not available in household surveys, unless a person's occupation is clearly identified. Facilities are also the best sources of information on procedures used to identify the poor.

In a context where a well defined means testing program is being implemented, health facility based data collection (through patient interviews, for instance) can be used to collect the information necessary to measure coverage of all those seeking care at facilities and of leakage of waivers to the non-poor. For studies of the effectiveness of specific practices in identifying the poor and other target groups, it may be necessary to conduct surveys of non-health facilities (e.g., local government social assistance offices), as well as health facilities.

This study used household survey data from Burkina Faso, Niger, and Senegal and focused on data related to the rural population's use of outpatient, curative health services and medicines at public sector health facilities. All three household surveys had been conducted in the early 1990s for other reasons, but contained the relevant information on household income and payment for health care. In the Senegal survey, data were available on use of, and fee waiver practice in, the private sector (church mission providers and traditional healers), as well as in the public sector. In Niger, the data permitted a comparison of fee waiver practice both before and after the introduction of official cost recovery.

3.4 Data Bases

The data for Burkina Faso are from a household survey concerning the ability and willingness to pay for health care that the Ministry of Health and the HFS project conducted in January and February 1994 as part of the government's effort to establish fees at government-run health facilities. (Sow 1994; McLees 1994; Knowles 1994) A total of 1,870 households comprising 11,994 individuals were surveyed in three provinces (Bazéga, Gourma, and Séno). An equal number of households (624) were selected randomly from each province. This analysis uses data from the 169 individuals living in rural areas who reported going to a public health facility in the two weeks prior to the survey for treatment of an illness.

For Niger, the analysis uses data from two household surveys on the demand for health care conducted in three districts in conjunction with pilot tests for a national cost recovery program. (Diop 1994, Diop et al. 1994; Diop et al. 1995; Yazbeck, Wenner 1994) The pilot test took place for one year in two of the districts, with the third district serving as the control. Both a baseline survey, which took place October to December 1992 before the introduction of cost recovery, and a final survey, which was conducted from October to December 1993 during the cost recovery experiment, involved approximately 1,830 households or 13,000 individuals each in the three districts. Both the baseline and final surveys took place in the same geographical clusters. The same households were not necessarily included in both surveys, however, since households were randomly selected for each survey within these clusters.

The database for the Niger analysis consists of the subset of individuals who reported having had an illness during a two-week period prior to being interviewed and who sought care at a public health facility. For the baseline survey in all three districts, 448 people fell in this subset. For the follow-up survey in the two districts with the cost recovery pilot tests, 279 people fell in this category.

The Senegal data are derived from a World Bank-sponsored household survey conducted by the government's Department of Projections and Statistics in 1991 and 1992 to determine the effects of structural adjustment policies on the population (Sadio, Diop 1994). This was a large national survey of 10,000 households (86,000 individuals) from all regions of the country selected by probabalistic sampling, which covered a number of topics, including health.

For the means testing analysis, this study used data from the health module of the Senegal survey, which was completed for 14,522 persons (6,331 of which came from rural areas) who stated that they had been ill at some time during the 30 days prior to the interview. This study used data from the subsample of rural dwellers who had been ill and who sought care outside of the home ($n = 3,451$). The survey collected utilization and payment data for a variety of health providers, including traditional healers, private providers (Catholic Church-run and other private providers, such as Red Cross or small private clinics in rural towns), and public health facilities (health posts and health centers or hospital outpatient departments).

For all three countries the data sets used for the means testing analysis focus on utilization of outpatient curative care. People who said they had paid for either consultations and/or for medicines at the health facility or at a pharmacy after receiving a prescription from a health facility were classified as having paid for care. Others were classified as having received fee waivers. All three surveys included questions on household income, using total monthly expenditures as the standard indicator of income. To group households into income quartiles, each household's total expenditures were divided by the number of household members. Households were then ranked by per capita income and grouped into quartiles. In the absence of official income thresholds for means testing in any of the countries, this study considered individuals living in households in the lowest 25 percent of household per capita incomes to be "the poor."

4.0 FINDINGS

4.1 Prevalence of Fee Waivers

Exhibit 4.1 summarizes fee collection and waiver practices among public health providers in rural Burkina Faso, Niger, and Senegal, as well as among private providers in rural Senegal. The percent of all patients who receive fee waivers in rural public health facilities in all three countries varies fairly widely from 18 and 21 percent in health posts and health centers in Senegal, to 27 percent in Niger (during cost recovery), to 50 percent in Burkina Faso.

Contrary to what may have been expected, all three types of private health providers in rural Senegal provide a larger percentage of fee waivers than do public providers in Senegal or in Niger. For example, Catholic mission health providers in Senegal grant almost twice the proportion of waivers than do public health posts in Senegal (34 percent vs. 18 percent), which constitute the main source of modern health services for the rural population. Two out of three types of private providers in Senegal grant more waivers than do public providers in Burkina Faso. In addition, all private providers in Senegal granted a higher percentage of waivers than did public health facilities in Niger.

Exhibit 4.1: Prevalence of Fee Waivers for Health Services in Rural Burkina Faso, Niger, and Senegal			
Country/Health Facility	Proportion (%) of individuals who		Number of individuals using health services
	Paid	Were Given Waivers	
BURKINA FASO (1994)			
Public Health Facilities	50	50	169
NIGER (1992-93)			
Public Health Facilities			
Before Cost Recovery	23	77	448
During Cost Recovery	73	27	279
SENEGAL (1991-92)			
Public Health Post	82	18	2,354
Public Health center or hospital	79	21	460
Traditional Healers	37	63	300
Catholic missions	66	34	260
Other private providers	27	73	77

The Niger data provide an opportunity to assess how informal fee waiver practices might change when cost recovery is officially introduced. During the period before cost recovery pilot tests, services at public health facilities were to be provided free-of-charge. Nevertheless, responses from the baseline household survey indicate that 23 percent of patients who visited public health facilities during a two-week recall period paid for their treatment. As expected, the introduction of official cost recovery substantially affected fee collection practices. The proportion of patients who reported paying for their treatment increased to 73 percent and the proportion receiving waivers dropped to 27 percent. (For further discussion of these findings separately in the pilot test districts, see Willis and Leighton, 1995.)

The prevalence of informal fee collection in the absence of official cost recovery indicates that the official introduction of fees does not necessarily represent a price increase for all patients who seek care at public health facilities. But the increase in fee collection that occurs when cost recovery is introduced is clear evidence of the stronger incentive that health facilities can have to collect fees under certain conditions. Under the pilot test in Niger, revenues were retained at the district level and all health workers and the population knew that the purpose of fees was to improve drug availability and other aspects of the quality of health care.

These data also indicate that even with informal fee charging practices, health workers in these Niger districts also practiced some method to protect the poorest. And as the next section shows, an increase in fee collection rates under official cost recovery does not necessarily mean that the poor receive proportionately fewer fee waivers.

4.2 Waiver Coverage for the Poor and Non-poor

To assess the extent to which the informal practices for granting fee waivers for rural health services specifically protect the poor, it is important to look at the percentage of poor patients who receive the waivers. Overall, the data suggest that the informal means testing procedures that public and private health facilities are practicing are effective in identifying at least some of the poor and in granting them fee waivers.

As *Exhibit 4.2* on the following page shows, the proportion of the poor in all three countries who receive waivers is, with some exceptions, equal to or higher than the proportion of non-poor receiving waivers. This pattern is evidence that, even in informal means testing systems, health workers are deliberately identifying and granting waivers to the poor. Thus, in almost all types of public and private rural health facilities in the three countries, the poor are more likely than the non-poor to receive a waiver. In Burkina Faso, for example, 60 percent of poor patients can expect to receive a fee waiver at public health facilities, compared with less than half (47 percent) of non-poor patients. In Niger under official cost recovery, the poor are almost twice as likely to receive a fee waiver as the non-poor (40 percent vs. 24 percent).

Senegal public health facilities provide the main exception to this general rule. In Senegal, public health posts provide slightly better coverage for the poor (22 percent) than for the non-poor (16 percent), but public health centers and hospitals do not. Twenty-two percent of non-poor patients using public health centers are likely to receive fee waivers, compared with only 15 percent of poor patients. By contrast, all private health providers in Senegal give equal or better waiver coverage for poor patients than for non-poor patients. Traditional healers in Senegal are as likely to grant waivers to the poor as to the non-poor, with 63 percent of each category of patients receiving exemptions. Traditional healers may, however, also be receiving in-kind payments in addition to cash for their services.

Exhibit 4.2 Health Service Fee Waiver Coverage for the Poor and Non-Poor in Rural Burkina Faso, Niger, Senegal				
Country/Health facility	Proportion of Poor Patients Given Waivers (Lowest 25 % income)		Proportion of Non-Poor Patients Given Waivers (remaining, upper 75 % income)	
	Proportion (%)	Number of individuals	Proportion (%)	Number of Individuals
BURKINA FASO (1994)				
Public health facilities	60	35	47	134
NIGER (1992/1993)				
Public health facilities				
Before cost recovery	94	53	75	395
During cost recovery	40	50	24	229
SENEGAL (1991-92)				
Public health post	22	511	16	1,843
Public health center or hospital	15	75	22	385
Traditional healer	63	84	63	216
Catholic mission	46	80	28	180
Other private provider	69	13	73	64

Similar to their high performance as measured by waiver prevalence, private providers in Senegal grant waivers to relatively large proportions of their poor patients (46 - 69 percent). In addition, all categories of private providers in Senegal give better fee waiver coverage for poor patients than their public sector counterparts in Senegal and Niger, and equal or better coverage than public providers in Burkina Faso.

While these data show generally positive patterns for the poor, they also reflect a wide variation in effectiveness of means testing. Even though the poor are generally more likely to receive waivers than the non-poor, waiver coverage for the poor ranges from 15-22 percent at public health posts in Senegal to 60 percent in Burkina Faso public facilities and 69 percent among "other private" providers in Senegal. Catholic missions in Senegal provide twice the waiver coverage for the poor (46 percent) as public health posts do (22 percent).

Similarly, the proportion of non-poor receiving waivers in all three countries ranges from 16-22 percent in public facilities in Senegal to 47 percent in Burkina Faso and a high of 73 percent from other private providers in Senegal. It is important to recall that in all three countries patients can receive waivers for reasons other than income (e.g., civil servants, military, students). Thus, some percentage of the non-poor receiving waivers are also eligible and not all waivers granted to the non-poor represent "leakage" of waiver benefits. For example, health facility records kept during the cost recovery pilot test conducted in Niger showed that by far the largest portion of waivers were given to students, followed by soldiers and prisoners. Household survey data also show that students in rural Niger are more likely to come from better-off households (Bitran

1995, Diop et al. 1994.) Data are not available for this study, however, to determine what percent of non-poor in the three countries were eligible under the other official fee exemption categories.

This variation in waiver coverage for both the poor and non-poor illustrates the importance of reviewing the performance of providers to see which ones may have adopted more effective practices. It also demonstrates the importance of conducting such a review among private providers and traditional healers, as well as in the public sector. The multiple eligibility categories for fee waivers in many African countries compound the difficulties in measuring the error rates for granting fee waivers to non-eligibles, including the non-poor. But these data do demonstrate that a significant portion of the non-poor patient population frequently receives fee waivers.

The Niger data also provide insight into how well informal means testing practices can protect the poor when cost recovery is officially introduced, and how the poor fare compared to the non-poor. Data on these points are mixed. Prior to the introduction of official cost recovery in Niger, 94 percent of the patients belonging to the poorest households were given waivers compared to 75 percent of non-poor patients. With official cost recovery and a new management system at public health facilities, waiver coverage for both the poor and the non-poor declined, as expected. Almost all poor (94 percent) received fee waivers under the system of informal fees, while fewer than one-half (40 percent) received waivers once the pilot test introduced official cost recovery. Nevertheless, the data show that waiver coverage declined less for the poor (by 57 percent, from 94 percent to 40 percent) than for the non-poor (by 69 percent, from 75 percent to 24 percent). This finding suggests that health facilities were making a special effort to protect the poor with the introduction of official fees.

4.3 Distribution of Fee Waivers to the Poor and Non-poor

Exhibit 4.3 on the following page shows the distribution of all fee waivers between the poor and the non-poor. Public health facilities in all three countries generally provide one-fourth of all waivers to the poor, with 75 percent going to the non-poor.¹ Public health centers in Senegal, however, are an exception. They distribute only 12 percent of fee waivers to the poor, with 88 percent going to the non-poor. As *Section 4.2* mentioned some percent of the waivers granted to the non-poor represent inaccuracy and "leakage" of waiver benefits. Another portion represents granting waivers to patients eligible for reasons other than being poor.

As in the other measures of means testing, some private sector providers in Senegal perform about the same as the public providers. Traditional healers, for example, give 28 percent of their fee waivers to the poor. Others have notably better performance; Catholic missions grant 43 percent of all waivers to the poor and do twice as well as public sector providers. Still other private providers do relatively poorly. Providers in the "other private" category give only 16 percent of fee waivers to the poor.

Data from Niger show the impact of official cost recovery on waiver distribution to the poor. In Niger the distribution of fee waivers improved for the poor after the introduction of official cost recovery. Whereas facilities granted 14 percent of waivers to the poor before official cost recovery, they gave 27 percent to the poor after the new policy went into effect. This finding parallels the finding presented in *Section 4.1* that the

¹ If all fee waivers were intended for the poor, 100 percent of the waivers should go to the poor. On the other hand, it may appear that 25 percent of waivers going to the poor represents full distribution of waivers to them, since the poor represent 25 percent of the population according to the income threshold used to define the poor in these examples. *Section 4.4.2* illustrates why 25 percent is, however, not necessarily the appropriate measure for a neutral waiver distribution.

overall decline in the percentage of waivers given once official fees were introduced affected the poor less than the non-poor.

<i>Exhibit 4.3 Distribution of Health Service Fee Waivers to the Poor and Non-Poor in Rural Burkina Faso, Niger, Senegal</i>			
Country/Health facility	Proportion (%) of Waivers Given To:		Number of Individuals Given Waivers
	The Poor (lowest 25 % income)	The Non-Poor (remaining, upper 75 % income)	
BURKINA FASO(1994)			
Public health facilities	25	75	84
NIGER (1992/1993)			
Public health facilities			
Before cost recovery	14	85	347
During cost recovery	27	73	74
SENEGAL (1991-92)			
Public health post	28	72	414
Public health center or hospital	12	88	96
Traditional healer	28	72	189
Catholic missions	43	57	87
Other private provider	16	84	56

4.4 Interpreting Effectiveness of Means Testing in Protecting the Poor

All four measures that this Technical Note has discussed are typical indicators of the effectiveness of means testing in providing protection for the poor under cost recovery and achieving goals for more equitable access to care for the poor. Nevertheless, some caution must be used in interpreting the implications of any of the four measures, especially when they are used to compare performance of different health providers or to compare across countries. The various measures must also be reviewed in combination with each other and interpreted carefully when assessing means testing and fee waiver performance for individual countries or health providers.

One of the main reasons for caution in interpreting the data relates to differences between the poor and non-poor in their utilization of health services. The four standard measures of means testing effectiveness in protecting the poor are all based on the effectiveness for those people who seek health care. Using these measures to evaluate the equity impact of fee waivers is complicated by the fact that the poor do not use health services at the same rate as the non-poor. Financial constraints are only one of the reasons for these utilization differences. Usually the poor face more barriers — geographic access, cultural perceptions, as well as financial

— to using health services and are thus not as likely to seek care at health facilities as the better-off are (Bitran 1995, Barlow and Diop 1995, Leighton 1995a, Shaw and Griffin 1995).

This difference in utilization rates between the poor and non-poor has implications for the role means testing can play in removing obstacles the poor face in using health services. Assessments of the impact of means testing in promoting equity of access for the poor in the health system need to take into account the context of overall access that the poor have to health care. Means testing and fee waivers alone cannot do the whole job of opening or expanding access for the poor.

To illustrate these points, the following presents data from Burkina Faso, Niger, and Senegal on utilization rates for the poor and non-poor. It then provides a brief illustration of the effects that the different utilization rates have on cross-country comparisons of the effectiveness of means testing and on a single country case assessment.

4.4.1 Utilization rates for the poor and non-poor

For the three countries in this analysis, about 15 percent of all people, from both poor and non-poor households, reported an illness during the reference period of the questionnaire. But, as *Exhibit 4.4* on the following page shows, the percentage of people seeking care when sick is relatively small in Burkina Faso (17-19 percent) and in Niger (11-19 percent). In Senegal 29-39 percent of sick people seek care at public health facilities, and between 38 to 53 percent seek care from any western medicine health provider. These data also demonstrate that the percentage of non-poor people with an illness who actually seek care from health providers is often 5-10 percentage points higher than the proportion of the poor who do so.

The Senegal data show that a relatively small proportion (1-5 percent) of sick people seeking health care use any type of private western health care provider — primarily because of their scarcity in rural Senegal. An equal percentage of people (5 percent) seek care from traditional healers. The relatively high rates of utilization of public health posts by both the poor (29 percent) and the non-poor (39 percent) demonstrates the predominance of public primary health care facilities as the main source of care for the Senegalese population. Although specific data are not available for this analysis, private providers are also scarce in rural Burkina Faso and Niger (Diop et al. 1994, McLees 1994). Thus, the 11-19 percent utilization rates represent virtually total use of health services in rural areas of Burkina and Niger that the household surveys covered.

For purposes of this analysis it is important to note that, in contrast to utilization patterns for public health providers, the Senegal data do not show a difference between poor and non-poor utilization rates for private providers. Roughly equal percentages of poor and non-poor seek care from private providers.

Exhibit 4.4 Health Service Utilization Rates for the Poor and the Non-Poor Who Report an Illness in Rural Burkina Faso, Niger, Senegal		
Country/Health facility	The Poor (lowest 25% income)	The Non-Poor (remaining 75% income)
BURKINA FASO (1994)		
Public health facilities	17	19
NIGER (1992/1993)		
Public health facilities		
Before cost recovery	6	11
During cost recovery	11	19
SENEGAL (1991-92)		
Public health post	29	39
Public health center or hospital	4	9
Traditional healer	5	5
Catholic missions	5	4
Other private provider	1	1

In Niger, the data show that utilization by the poor almost doubled under official cost recovery compared to the prior situation. This finding illustrates the importance that the poor place on having greater access to higher quality health services and their willingness to pay for them (Diop et al. 1995). It also suggests that the increase in the proportion of fee waivers given to the poor that *Section 4.3* reported may have provided the needed additional protection for at least some of the poor. (See Willis and Leighton 1995 for further discussion of these effects for the two pilot test districts.) The gap, however, between utilization rates of the poor and non-poor (five percentage points before official cost recovery) remained and increased slightly (to seven percentage points) under official cost recovery.

4.4.2 Cross-country and cross-provider comparisons

The variation in utilization rates of the poor — as well as differences in utilization between the poor and non-poor — across the three countries and among private and public providers in Senegal demonstrates the importance of caution in interpreting the effects of means testing through measures of waiver prevalence, distribution, and coverage for the poor and non-poor. The effect of these utilization differences can be especially important when comparing different providers or different countries. Countries and health providers may also differ on several other factors that affect the analysis, such as level of health service fees, household income levels, fee waiver and exemption policy, and income threshold for poverty.

Any of these factors can affect the comparability of countries or individual health providers and make generalizations about the relative effectiveness of fee waivers inappropriate. For example, country data may show that public health facilities grant relatively high proportions of waivers to the poor and give relatively high coverage to poor patients who do visit a facility. But, in fact, these facilities may be missing a majority of the poor because they do not seek care when ill for a wide variety of reasons. Thus, differences in the effectiveness of means testing in protecting the poor in different countries will depend to some extent on the differences in utilization rates of the poor in those countries.

One approach for taking utilization differences between the poor and non-poor into account when making cross-country comparisons is to standardize the means testing measures. *Exhibit 4.5* shows the results of standardizing the distribution of waivers to the poor and the non-poor to eliminate the effect of different health service utilization rates between these two groups.² It shows what the proportion of

Exhibit 4.5 Actual and Adjusted Distribution of Health Service Fee Waivers Given to the Poor in Rural Burkina Faso, Niger, Senegal			
Country/Health facility	Proportion (%) of Waivers Given To The Poor		Difference (actual is better(+)/ worse(-) than if poor and non-poor used services equally)
	Actual observed rate	Adjusted rate (assuming equal ser- vice use by poor and non-poor)	
BURKINA FASO(1994)			
Public Health Facilities	25	30	-5
NIGER (1992/1993)			
Before cost recovery	14	30	-16
During cost recovery	27	36	-9
SENEGAL (1991-92)			
Public health post	28	32	-4
Public health center or hospital	12	19	-7
Traditional healer	28	25	+-3
Catholic missions	43	35	+8
Other private provider	16	24	-8

² If the poor and the non-poor had the same levels of utilization of health facilities, the distribution of poor and non-poor patients would be the same as the distribution of the poor and the non-poor in the population. Suppose that p is the proportion of the poor in the population, the **adjusted proportion** of the poor receiving waivers among all patients who receive waivers is derived as: $\frac{c_p x p}{c_p x p + c_{np} x (1-p)}$, where c_p is the proportion of poor patients who receive a waiver and c_{np} is the proportion of non-poor patients who receive a waiver.

waivers granted to the poor would be (adjusted rate) if the poor and non-poor used health services equally. The difference (third data column in *Exhibit 4.5*) between the actual and adjusted rates of waivers granted to the poor reflects the extent to which the health facilities are providing a lower (those with minus sign) or higher (plus sign) percentage of waivers to the poor than they would if the poor used services at rates equal to other patients.

Comparing countries according to the measure of difference between actual and adjusted waiver rates can show the equity gap between the poor and non-poor which results from unequal utilization rates. Assuming for purposes of discussion that this gap could be removed by better means testing practices, the difference measures in the third column of the *Exhibit* also show the extent to which some countries need to improve means testing (those with a minus sign) and the extent to which others (those with a plus sign) are already providing a greater proportion of fee waivers to the poor than the non-poor, regardless of utilization patterns.

A comparison of the unadjusted distribution of fee waivers between rural Niger (under official cost recovery) and rural Burkina Faso could lead to a conclusion that public health facilities in Niger provide a somewhat more favorable distribution of fee waivers for the poor than facilities in Burkina Faso do (27 percent vs. 25 percent). Adjusting for differences in utilization of the poor and non-poor, however, leads to the opposite conclusion. If the poor and non-poor used services equally, health facilities in Niger would be still be providing a higher percentage (36 percent) of fee waivers to the poor than would Burkina Faso (30 percent). But the gap between the actual fee waiver distribution and the "ideal" is almost twice as large in Niger (-9) as in Burkina Faso (-5).

Similarly, public health facilities in Niger improved the proportion of fee waivers granted to the poor from 14 to 27 percent with the introduction of official cost recovery. They also reduced the gap reflected by the adjusted distribution rates from -15 to -9. While these data suggest that means testing and fee waiver practices improved under official cost recovery, they also indicate that the remaining gap is larger than for comparable public health facilities in either Burkina Faso (-5) or Senegal (-4). These findings suggest that policy makers in Niger would need to take additional steps to overcome obstacles for the poor to catch up to levels of service coverage prevailing in Burkina Faso and Senegal.

The Senegal data show that standardizing the fee waiver data confirms that rural private health providers tend to grant better fee waiver protection for the poor than do rural public health facilities. Both traditional healers (with a difference measure of +3) and Catholic missions (with a difference measure of +8) already grant a higher proportion of fee waivers to the poor than their current utilization would produce. In contrast, public health posts (-4) and public health centers and hospitals (-7) are providing fewer waivers to the poor than they would if use were equal and are not making up for the gap in utilization.

Standardizing the fee waiver data for utilization differences may thus help explain why both the poor and non-poor use Catholic mission and traditional healers at roughly the same rates, as data in *Exhibit 4.4* showed. Both these private providers have clear fee waiver policies and apparently effective means testing practices that remove the financial barriers that may have kept the poor from using their services. To the extent that the poor face less uncertainty about having to pay fees when using these providers' services, they are more likely to use them at the same rates as the non-poor. (See also Knowles 1995 for further discussion of the possible effects of uncertainty about fees.) In public health posts where the means testing and fee waiver practice is less progressive, there is a 10 percentage point difference between utilization by the poor and non-poor.

4.4.3 Single country example

Exhibit 4.6 provides an example of how the lower use of health services by the poor can affect assessments about the effectiveness of fee waiver practice in protecting the poor in an individual country or provider case. It also illustrates the importance of reviewing both fee waiver coverage and distribution data for both the poor and non-poor before reaching conclusions about whether, or how, means testing and waiver practice could be more effective in providing financial protection for the poor.

Exhibit 4.6 Illustration of Fee Waiver Assessment for a Single Country or Provider		
Utilization and Fee Waiver Performance	Poor	Non-poor
Population of 1,000 people with an illness	300	700
Utilization of health facilities: Percent (number of people)	25% (75)	50% (350)
Fee waiver coverage: Percent (number of people)	50% (37)	10% (35)
Distribution of fee waivers: Percent (number of people)	52% (37)	48% (35)

In this example, the level of fee waiver coverage for poor patients is relatively high at 50 percent and the percent of non-poor patients receiving waivers is low (10 percent). The distribution of benefits is quite even between the poor and the non-poor (52 percent vs. 48 percent). Such data may suggest that means testing practices are relatively accurate and the poor relatively well protected. But because the non-poor use health services to a greater extent than do the poor, providing waivers to only 10 percent of the non-poor means granting waivers to virtually as many non-poor patients (35) as to poor patients (37).

In addition, while one-half of the waivers go to the poor, granting waivers to only 10 percent of the non-poor patients represents almost one-half (48 percent) of all waivers. All waivers given to the non-poor in this example would have been nearly adequate to protect the balance of poor patients who did not receive waivers. That is, redistributing all the non-poor's waivers to poor patients would achieve 100 percent waiver coverage for poor patients.

Even though health facilities in this example grant fee waivers to as many as half of their poor patients, 75 percent of the poor who had an illness but did not come to the facility did not benefit from the means testing and fee waiver policy. In the example, poor patients might expect they had a 50 percent chance of receiving a fee waiver. But if means testing practices were more effective and accuracy improved so that nearly 100 percent of poor patients received fee waivers, they would have much greater certainty of not having to pay fees (or the full fee). While many reasons other than financial may keep poor patients away from the health providers, removing the financial constraint of user fees is the purpose of means testing. Field trials and demonstrations would be needed to test the extent to which improved means testing and improved fee waiver

practice — e.g., closer to 100 percent coverage of the poor who seek health care — would in fact reduce the utilization gap and improve equity of access between the poor and non-poor.

5.0 CONCLUSIONS

The informal means testing systems that prevail in Africa are meant in principle to identify people by income level and grant fee waivers to those unable to pay for health services. Many ministries of health rely on the informal systems, along with traditions of "community solidarity," to protect the poor under cost recovery initiatives. Little documented evidence exists, however, on the extent to which these informal means testing mechanisms meet their objectives.

This Technical Note provides evidence from household surveys in Burkina Faso, Niger, and Senegal that sheds some light on these issues. These data show generally favorable results for these informal means testing practices, which do effectively provide financial protection for at least some of the poor who seek health services. Current fee waiver policies also result in providing a substantial portion of fee waivers to the non-poor, either because of other eligibility criteria in place (e.g., for civil servants, students, military, handicapped) or because of inaccuracies in identifying the poor and "leakages" of waiver benefits.

Data from Niger also show that informal means testing can protect the poor in the shift to official cost recovery in the public health sector. Data from Senegal suggest that some private providers, especially church mission health providers, have developed more effective means testing and fee waiver practices than have public providers. The variation in effectiveness of means testing across all three countries, and among public and private health providers, provides concrete evidence that some practices are more effective than others. Further research can help identify specific means testing practices that result in the more effective fee waiver systems and help shed light on the extent to which fee waiver practices can increase current low utilization rates of the poor.

This Technical Note illustrated the importance of taking into account differences in use between the poor and non-poor when assessing the effectiveness of means testing across countries and across individual health providers. Making adjustments for utilization differences helps assess relative performance better and helps identify how far current practices may fall short, or succeed, in closing the gap in access to health services between the poor and non-poor.

As examples in this Technical Note have suggested, ministries of health face difficult policy trade-offs in designing and implementing fee waiver and cost recovery policies. One of the main equity issues in relation to cost recovery programs in Africa is to develop effective, administratively feasible, and low-cost methods that work as well for the poor as they do for other target groups. In doing so, ministries are likely to face trade-offs in their goals for exempting the poorest in addition to special target groups, while also trying to achieve the revenue raising goals of cost recovery. Achieving both the revenue raising and equity potential of cost recovery in sub-Saharan Africa will require finding ways to improve both fee collection and exemption practices.

Making such improvements would, of course, have other consequences for the health system as well. For example, raising both utilization and fee waivers for the poor at public health facilities would add to ministry of health budget requirements, while the goals of cost recovery are to reduce demands on the public budget. As examples in this Note demonstrate, one way to offset these additional funding requirements is to reduce subsidies going to the non-poor, including people eligible for fee waivers under various non-income related categories, but who otherwise can afford to pay for health care. Such options highlight one of the main

dilemmas that policy makers and program managers face between protecting the poor, raising needed revenues to pay for better health care, and reducing claims on the public budget for providing health services.

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